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BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
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SUBJECT—

TITLE

Western Pine Beetle Survey 1950

Deadwood Reservoir-White Hawk Basin

Boise National Forest

By L. W. Orr

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By L. W. Orr

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An aggressive infestation by the western pine beetle, Dendroctonus brevicomis, is present in a stand of ponderosa pine located in T.11 N., R.7E., southeast and east of the Lower Deadwood Guard Station on the Boise National Forest. This area was examined by the writer on October 10 in company with Ranger L. H. Garner, at which time it was decided that an aerial reconnaissance would be the quickest and most economical way of determining the extent of the infestation.

Mr. Wendell Moran, from the Supervisor's Office in Boise, had made a ground examination of the area on October 3 and Mr. Joel Frykman, also of the Boise office, flew over the area on October 13. Both reported a concentration of dead and dying timber on the north side of White Hawk Creek.

On October 19, Mr. Paul Grossenbach, Mr. Henry Thompson, and the writer flew over the area in a Forest Service plane piloted by Mr. Clare Hartnett. We observed numerous dead and dying ponderosa pine trees along Wilson and Warm Springs Creeks and a conspicuous concentration of such trees on the slope north of Whitehawk Creek. In fact, this infestation is considerably heavier than anything observed elsewhere on the Payette and Boise Forests.

Our ground examination on October 10 showed that most of the infestation by the western pine beetle occurred in 1949 and 1950. Many trees were currently infested, with large numbers of larvae present within the bark, indicating second generation attack in 1950. Ips and mountain pine beetles were present in some of the smaller trees. Injury by the needle cast fungus is prevalent in the area and has evidently contributed to weakening of the trees, most of which are mature or overmature. The site appears to be poor. This combination of general decadence and infestation by the western pine beetle may result in loss of most of the ponderosa pine in the drainage.

A 3-man survey crew, with Henry Thompson as crew leader, spent one day in the area. On a total of 88 acres of sample strip, of which 82 acres were in ponderosa pine type, they found 27 first generation and 27 second generation attacks by the western pine beetle in 1950. In addition, they recorded 17 ponderosa pine trees that had been killed by Ips or the mountain pine beetle in 1950; most of these were relatively small trees. Unfortunately, most of the strip lines were run north of the area of heaviest infestation, with the result that the survey estimate is probably low. Applying these data to the ponderosa pine type sampled by the strip lines gives us the following:

Area	Acres sampled	Infested trees per acre			Current inf. by 2nd. gen.
		1st. gen.	2nd. gen.	Total 1950	
Deadwood	3280	0.329	0.329	0.658	1080

As indicated above, the area sampled by the strip lines did not include all the area that is infested, and perhaps not even the most heavily infested portion of it. It is therefore probable that there are at least 1500 and perhaps 2000 second generation attacks in the area between White Hawk Basin and Deadwood Reservoir.

It is very probable that this infestation by the western pine beetle will spread into additional area and be very destructive unless something can be done to check it. Artificial control of this bark beetle has never produced very lasting results when attempted in Oregon and California; therefore, we hesitate to recommend a control project at this time. We believe that a better plan would be to initiate salvage logging operations as soon as possible to take out infested trees and trees that are obviously of low vigor. This may result in almost a clear cut of certain areas. The western pine beetle characteristically attacks trees that are low in vigor, especially during the early stages of an outbreak. On the Boise, however, the beetles have not shown so definite a preference for weakened trees and it may be necessary to remove a rather high proportion of the stand to insure leaving only those that can resist the insects.

If there is no possibility of beginning a logging operation in the area within the next year, consideration should be given to attempting control by direct methods. The only method that we can now recommend is the old cut, peel, and burn treatment. With present labor costs this would be almost prohibitive. The use of penetrating sprays has not proved very effective with this insect, probably because the larvae develop within the bark instead of between the bark and wood.

L. W. Orr
November 20, 1950

BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

387 Federal Bldg., P.O.Box 731, Ogden, Utah

W. L. Robb, Assistant Regional Forester, USFS, Region IV, Ogden, Utah
L. W. Orr, Entomologist in Charge, Forest Insect Laboratory, Ogden, Utah
Bark Beetle Survey, Deadwood Area, Boise N. F.

November 20, 1951

I am enclosing four copies of Mr. Washburn's report on his survey of bark beetle infestation conditions in ponderosa pine stands in the Deadwood area on the Boise National Forest. Two of these are intended for the Forest and you may wish to forward the fourth one to the Chief Forester.

The data obtained by this survey indicate that the control work conducted last spring accomplished what it was intended to do. It is unfortunate that money and manpower were not available for additional work this fall. However, the number of trees to be treated is relatively small as compared with the number treated last June and July. Most of the necessary truck roads are in and it should be possible to use the same camp site. Start of the project can probably be delayed until about June 1 when the cost of opening the road will be much less than it was this past season. On the other hand, the infested trees are scattered over a considerably larger area, which will tend to increase the cost per treated tree.

The area between Three Mile Creek and Packsaddle Creek, between Deadwood River and Scott Mountain road, was included in our survey this year. No concentration of infestation was found although infested trees are scattered throughout the area. The cost of treating such an infestation would be very high and we doubt that it would be justified, especially since it is likely that the area can be opened to logging by sometime in 1953.

We therefore recommend that $20,000 be provided for treating approximately 800 infested trees between Deadwood Reservoir and Whitehawk Basin, as requested in the Region's report of October 30. This recommendation is contingent upon approval of construction of an access road and a timber sale which will permit removal of most of this timber by the fall of 1953 or early in 1954. Otherwise, money spent for beetle control will be wasted, since it is unlikely that we can do more than retard the rate at which beetles are killing this timber.

The control method recommended for use in 1952 will be the same as was used this past season. The Forest evidently has enough ethylene dibromide on hand to treat about 800 trees.

It is not anticipated that there will be any need for further control work in the Deadwood area after July 1, 1952.

cc: Dr. MacAloney
Mr. Robb (3)

LWOrr:FRB